



A.D. 1862, 14th August. N° 2292.

S P E C I F I C A T I O N

OF

JAMES HEARN.

APPARATUS FOR RAISING PATIENTS  
IN THEIR BEDS, &c.

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A.D. 1862, 14th AUGUST. N° 2292.

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**Apparatus for Raising Patients in their Beds, &c.**

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**LETTERS PATENT** to James Hearn, of Hatford, in the County of Berks, Clerk, for the Invention of “**IMPROVEMENTS IN APPARATUS OR APPLIANCES FOR RAISING SICK OR BEDRIDDEN PERSONS IN THEIR BEDS, AND FOR LIFTING THEIR BED CLOTHES.**”

Sealed the 6th February 1863, and dated the 14th August 1862.

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**PROVISIONAL SPECIFICATION** left by the said James Hearn at the Office of the Commissioners of Patents, with his Petition, on the 14th August 1862.

I, JAMES HEARN, of Hatford, in the County of Berks, Clerk, do hereby  
5 declare the nature of the said Invention for “**IMPROVEMENTS IN APPARATUS OR APPLIANCES FOR RAISING SICK OR BEDRIDDEN PERSONS IN THEIR BEDS, AND FOR LIFTING THEIR BED CLOTHES,**” to be as follows :—

My improvements in apparatus for the treatment of sick persons consist in the application of a framework which is mounted over the bed of the patient  
10 and furnished with a series of cords which are conducted over suitable pulleys carried by the framing, the ends of which cords are pendant over and distributed throughout the area occupied by the patient. The free ends of the cords are conducted and fastened to a double-armed lever mounted on the end standards, by which lever power can be applied to any number of the cords  
15 simultaneously to lift any weight attached to the opposite ends. I dispose the pendant cords in pairs, one at each side of the head at either shoulder, or



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across the back, one at either side of the loins or thighs, and one at either side near the feet, in all, eight; but this number may be varied. One or more pairs of these suspending cords may be arranged, separate and independent from the lever before mentioned, so as to be operated on separately, and so as to permit a greater or less lift for the head and shoulders or other parts of the 5 body that may be necessary. Suitable means are provided for fixing the lever or hand bar in position when the patient is raised, to which bar a single pair of cords may be attached. The pendant cords are provided with hooks or other means of easy attachment, to which bands or cradles (on which parts of the body are supported) may be applied. This system of support is also 10 applicable for the support of the bed clothes of a patient or other articles that it may be necessary to support independently of the bed. The upper horizontal framework is carried on standards raising it sufficiently above the bed for all purposes that may be required. The apparatus might also be supported from a bedstead having an overhead framework, but I prefer to make it 15 complete in itself.

**SPECIFICATION** in pursuance of the conditions of the Letters Patent, filed by the said James Hearn in the Great Seal Patent Office on the 14th February 1863.

**TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JAMES 20** HEARN, of Hatford, in the County of Berks, Clerk, send greeting.

**WHEREAS** Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Fourteenth day of August, in the year of our Lord One thousand eight hundred and sixty-two, in the twenty-sixth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the 25 said James Hearn, Her special licence, that I, the said James Hearn, my executors, administrators, and assigns, or such others as I, the said James Hearn, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and 30 vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN APPARATUS OR APPLIANCES FOR RAISING SICK OR BEDRIDDEN PERSONS IN THEIR BEDS, AND FOR LIFTING THEIR BED CLOTHES,**" upon the condition (amongst others) that I, the said James Hearn, my executors or administrators, by an instrument in writing 35 under my, or their, or one of their hands and seals, should particularly describe



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and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

5    **NOW KNOW YE**, that I, the said James Hearn, do hereby declare the nature of my said Invention, and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement, reference being had to the Sheet of Drawings hereunto annexed, and to the letters and figures marked thereon (that is to say):—

10    My improvements in apparatus applicable for the treatment of sick persons consists in the application of a framework which is mounted over the bed of the patient and furnished with a system or series of cords which are conducted over suitable pullies carried by the framing; the ends of these arms are pendant over and distributed around the area occupied by the patient. The  
15 free ends of the cords are conducted and fastened to a double-armed lever mounted on the end standards, by which lever power can be applied to any number of the cords simultaneously to lift any weight attached to the opposite ends. I dispose the pendant cords in pairs, one at each side of the head, one at either shoulder or across the back, one at either side of the loins or thighs,  
20 and one at either side near the feet, in all, eight; but this number may be varied. One or more pairs of these suspending cords may be arranged separate, independently from the lever before mentioned, so as to permit a greater or less lift for the head and shoulders or other parts of the body that may be necessary. Suitable pawls and ratchets or other means are provided for fixing  
25 the lever or hand bar in position when the patient is raised, to which bar a single pair of cords only may be attached. The pendant cords are provided with hooks or other means of easy attachment, to which bands or cradles, in which parts of the body are supported, may be applied. This system of support is also applicable for support of the bed clothes of a patient or other  
30 articles that may be necessary to be supported independently of the bed. The upper horizontal framework is carried on standards raising it sufficiently above the bed for all purposes that may be required. This apparatus might also be supported from a bedstead having an overhead framework, but I prefer to make it complete in itself. For general purposes the several suspending cords  
35 are used simultaneously and in combination, in which case, for their more free action and readier application, I prefer to attach them all to a rising stretcher and falling frame which is of a width and length to enclose the area occupied by the patient, and is, in fact, made to slide up and down the uprights of the supporting frame. The weight of this stretcher frame causes the suspending



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cords to descend or overhaul when they are released or eased away by the hand lever, and also keeps the belts or pliant supports, on which the patient rests distended, and prevents them pressing on his or her sides.

DESCRIPTION OF DRAWINGS.

Fig. 1 of the annexed Drawing represents an elevation of the apparatus 5 according to my Invention.  $a, a, a, a$ , are four uprights supporting the horizontal framing  $b, b$ , above. The uprights and longitudinals are suitably tied by cross bars  $c, c$ , and diagonal stays  $d, d$ , to afford the necessary rigidity. The frame is made of a sufficient length to extend beyond the limits of a bed, and of a breadth of about two feet, while the height is such as will give the 10 necessary head room and permit of the requisite rise and fall of the parts for lifting the patient to the desired extent. To the uprights  $a, a$ , is fitted a stretcher frame  $e, e$ , so that it can rise and fall thereon, being guided in its ascent and descent by the uprights  $a$ . This stretcher frame is suspended by the cords  $f, f, f$ , which pass up over pulleys  $g, g$ , mounted on the longitudinals 15  $b, b$ , and thence round other pulleys  $h, h$ , down to the lever frame  $i, i$ , which is mounted on fulcra at  $k, k$ , in the uprights  $a, a$ . The cords  $f, f$ , can be shortened or lengthened at pleasure to regulate the position of the stretcher frame  $e$ . By depressing the hand lever frame  $i, i$ , the whole of the cords will be pulled simultaneously and will lift the frame  $e, e$ , and the weight of the person 20 suspended thereto. Having so lifted a patient, two pawls  $l, l$ , take into ratchet-toothed quadrants fixed to the frame  $i$ , which keeps the patient in the elevated position desired. The patient is slung to the frame by belts  $m, m$ , having loops at the ends, hooked on to the pins  $p, p$ , of frame  $e, e$ . In addition to belts a broad canvas  $n$  may be used under the back, and soft cushions inter- 25 posed between the back of the patient and the belts or canvas. The belts may be readily introduced under the patient by a thin strip of wood used for that purpose. These belts are prevented pressing on the sides of the patient by the stretcher frame  $e$ , which is kept rigid in its breadth by the cross bars  $q, q, q'$ , the latter of which is of curved iron, as seen, which provides room for 30 the patient's head and shoulders being more elevated than the other part of the body, if desired.

Fig. 2 represents the apparatus without a stretcher frame  $e, e$ . In this case I simply attach the belts  $m, m$ , to the hooks on the ends of the cords  $f, f, f$ , instead of to the frame  $e$ , as before. The cords are manœuvred by the hand 35 lever frame  $i$ , which is all as before described; but in this case I have represented eight suspending cords, six of these being used and operated as before; but in addition thereto I employ two extra cords  $f', f'$ , near the head,

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separately attached to a hand hold *r*, which may be more or less operated on independently of the other cords for the purpose of elevating the head and shoulders more or less; I provide a suitable fastening for the hold *r*. These extra cords may also be applied in addition to the apparatus represented at 5 Fig. 1, and such additional cords might even be applied to the stretcher frame if that frame be jointed in its length so as to permit of the one part being inclined to the other. Instead of the simple hand hold *r* a second hand lever may be provided to operate the two additional suspending cords.

Having described the nature of my Invention and the manner of performing 10 the same, I declare that what I claim as my Invention to be protected by the herein-before in part recited Letters Patent is, the use and application of the apparatus herein-before described and represented in the Drawings annexed as and for the purposes herein-before set forth.

In witness whereof, I, the said James Hearn, have hereunto set my 15 hand and seal, this Twelfth day of February, in the year of our Lord One thousand eight hundred and sixty-three.

JAMES HEARN. (L.S.)

Signed, sealed, and delivered by the  
within-named James Hearn, in the  
20 presence of

JOHN HOOKINS,  
Faringdon, Ger<sup>tn</sup>.

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LONDON:

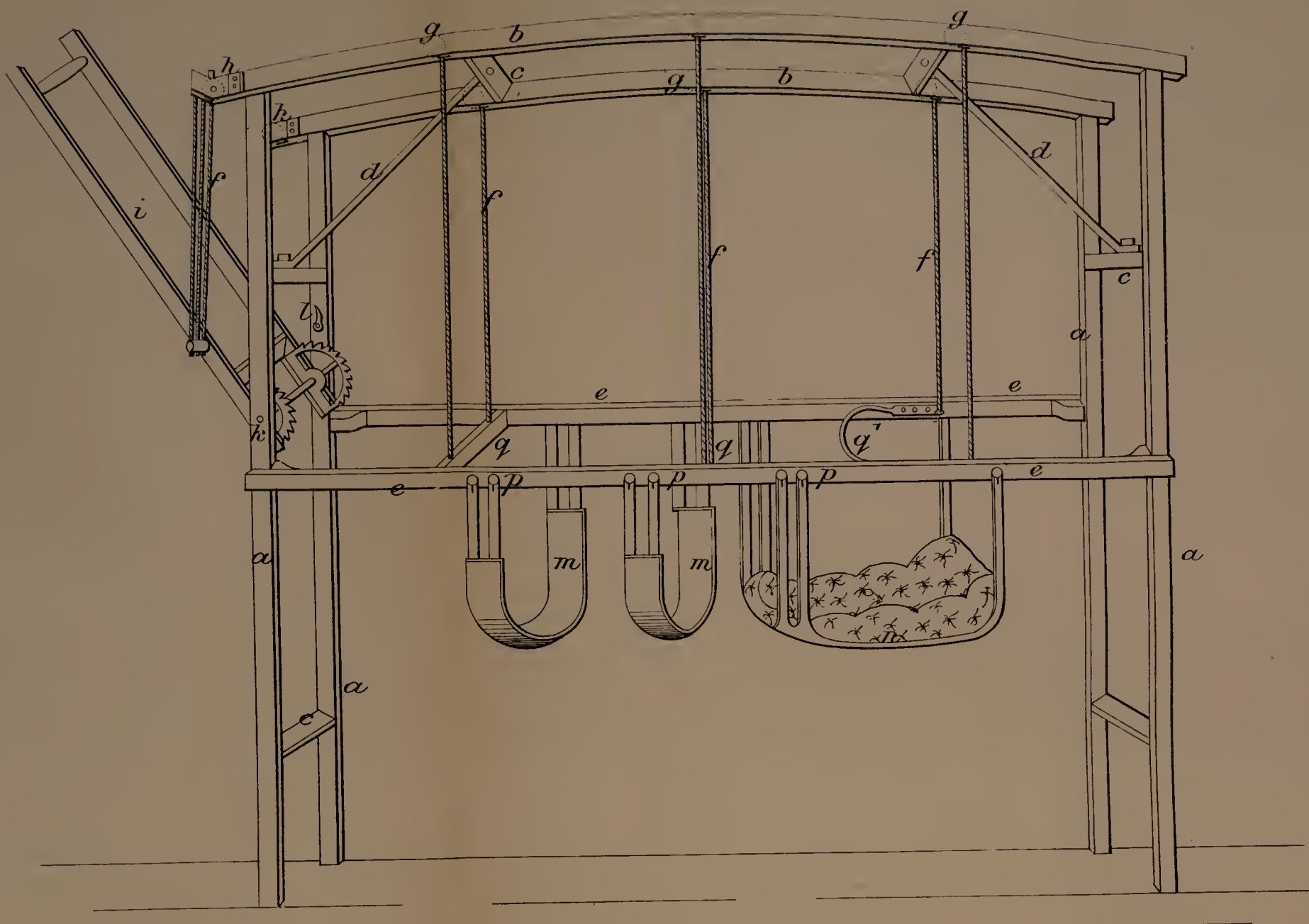
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F I C . 1 .



F I C . 2 .

